MPL 031 Interactive

User's Guide

Ver. 1.5

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1. Introduction

1.1 Notation

This Documentation uses various labels and name that serve as your guides to operating this product.

- Notational conventions

Caution	A “caution” indicates a section of the manual that requires special attention.
Reference	A “referene” provides information related to the current topic.
Example	An “example” indicates on example related to the current topic.
Note	A “note” provides supplementary information.

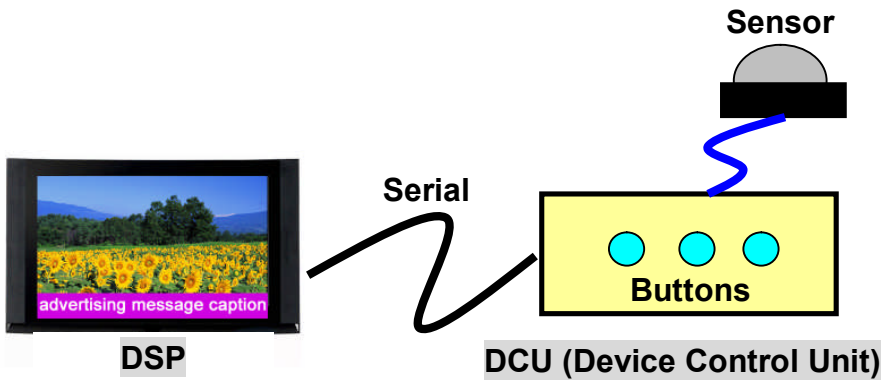
2. Major Functions

Interactive type support Serial interface and Network interface to communicate between DSP and user.

This type is suitable for Kiosk or information system at museums, tourist center and shopping mall.

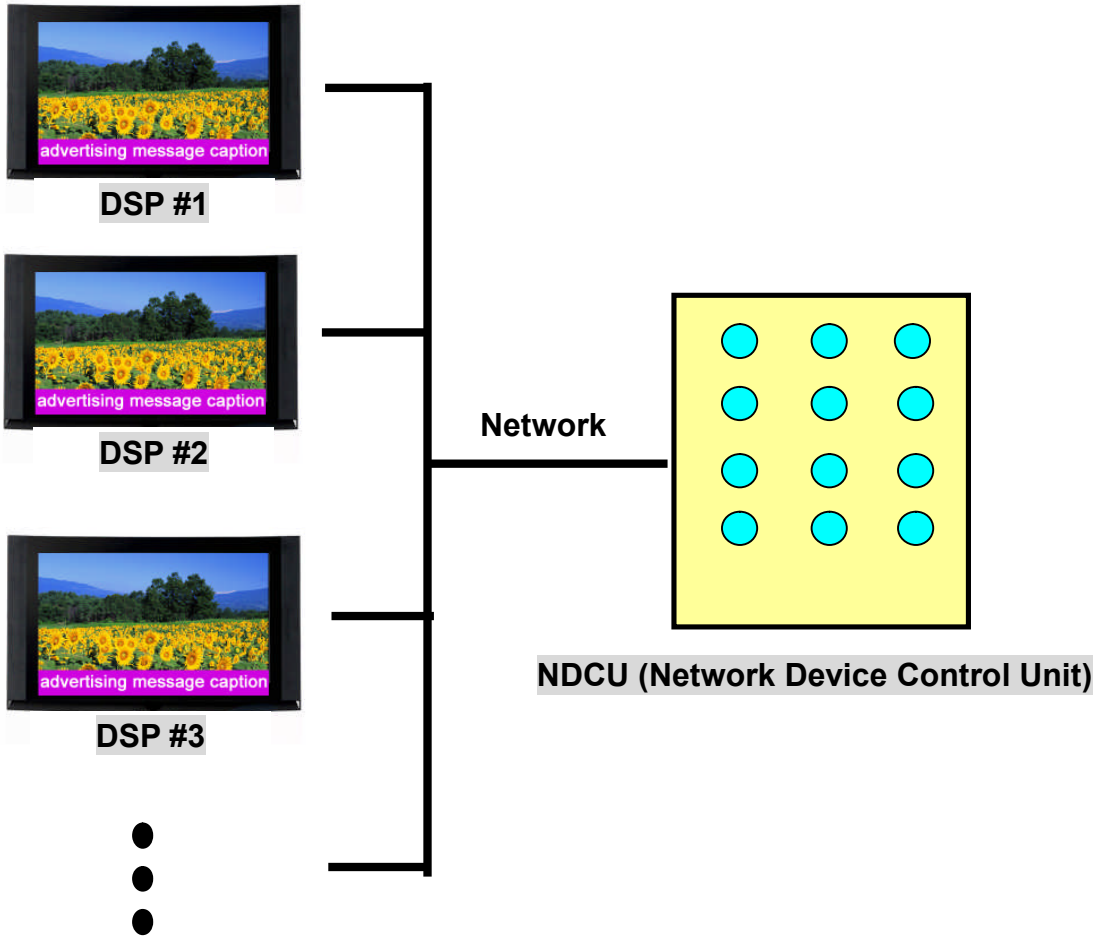
There are Standby mode, Repeat mode, Menu mode, and Continue mode in the Interactive type.

The following picture is an example that shows RS232 interface between DSP and DCU. DCU (Device Control Unit) allows direct communication between the human and the DSP that works in interactive type. Instead of DCU, the user can use PC or other embedded equipments. If you want to know about DCU in detail, refer to DCU user's manual.



<Serial Interface>

The following picture is an example that shows Network interface between DSP and NDCU. NDCU (Network Device Control Unit) can control more than one DSP. The user can use PC or other embedded equipments as Network Device Control Unit.



<Network Interface>

3. Operating Information

3.1 Serial Protocol

- Baud rate: depends on DSP setting (default is 4800 bps)
- Data bit: depends on DSP setting (default is 8 bit)
- Parity bit: depends on DSP setting (default is None)
- Stop bit: depends on DSP setting (default is 1 bit)
- Related DSP settings

✓ BASIC->DSP Mode: Interactive Mode

✓ ADVANCED->Interactive Setting->Mode

✓ ADVANCED->Interactive Setting->Response Type: Serial

✓ ADVANCED->Interactive Setting->Serial Baud Rate

✓ ADVANCED->Interactive Setting->Serial Data Bit

✓ ADVANCED->Interactive Setting->Serial Parity Bit

✓ ADVANCED->Interactive Setting->Serial Stop Bit

3.2 Network Protocol

- uses UDP
- Port number: depends on DSP setting (default is 9300)
- Related DSP settings

✓ BASIC->DSP Mode: Interactive Mode

✓ ADVANCED->Interactive Setting->Mode

✓ ADVANCED->Interactive Setting->Response Type: Network

✓ ADVANCED->Interactive Setting->Network IP

✓ ADVANCED->Interactive Setting->Network Port

3.3 Command Code

■ : Support, □ : Not-Support, 1 : Standby, 2 : Repeat, 3 : Menu, 4 : Continue

Code (Hex)	Content	Description	Operating Mode			
1~C7	Play track #001~#200					
Code (Hex)	Content	Description	1	2	3	4
C8	NC		□	□	□	□
C9	Power ON/OFF	Toggle Power ON and OFF	■	■	■	■
CA	System Reset	Reset system	■	■	■	■
CB ~ D9	NC		□	□	□	□
DA	Mute	Toggle Mute ON and OFF	■	■	■	■
DB	NC		□	□	□	□
DC	Expansion Command	Refer to 3.4 expansion command code	■	■	■	■
DD ~ E8	NC		□	□	□	□
E9	Volume +	Increase volume	■	■	■	■
EA	NC		□	□	□	□
EB	Pause	Pause playing file	■	■	■	■
EC	Play	Play paused file	■	■	■	■

ED	Volume -	Decrease volume	■	■	■	■
EE	Expansion Command	Refer to 3.4 expansion command code	■	■	■	■
EF	Start	Start auto play	■	■	■	■
F0	Continue mode	Set interactive mode to continue mode	■	■	■	■
F1	NC		□	□	□	□
F2	NC		□	□	□	□
F3	Prev	Back to previous file	■	■	■	■
F4	Next	Go to next file	■	■	■	■
F5	Stop	Stop auto play	■	■	■	■
F6	Pause/Play	Toggle pause and play	■	■	■	■
F7	Pause/Play	Toggle pause and play	■	■	■	■
F8	NC		□	□	□	□
F9	Repeat mode	Set interactive mode to repeat mode	■	■	■	■
FA	Menu mode	Set interactive mode to menu mode	■	■	■	■
FB	Standby mode	Set interactive mode to standby mode	■	■	■	■
FC	NC		□	□	□	□
FD	NC		□	□	□	□
FE	NC		□	□	□	□
FF	NC		□	□	□	□

3.4 Expansion Command Code

■ : Support, □ : Not-Support, 1 : Standby, 2 : Repeat, 3 : Menu, 4 : Continue

Expansion Code(Hex)				Content	Description	1	2	3	4
DC	01	10	DC	S-Video	Change video out	■	■	■	■
DC	01	20	DC	Component 480p	Change video out	■	■	■	■
DC	01	21	DC	Component 720p	Change video out	■	■	■	■
DC	01	22	DC	Component 1080i	Change video out	■	■	■	■
DC	01	23	DC	Component 1080p	Change video out	■	■	■	■
DC	01	30	DC	VGA 640x480	Change video out	■	■	■	■
DC	01	31	DC	VGA 800x600	Change video out	■	■	■	■
DC	01	32	DC	VGA 1024x768	Change video out	■	■	■	■
DC	01	33	DC	VGA 1280x720	Change video out	■	■	■	■
DC	01	34	DC	VGA 1280x768	Change video out	■	■	■	■
DC	01	35	DC	VGA 1280x1024	Change video out	■	■	■	■
DC	01	36	DC	VGA 1360x768	Change video out	■	■	■	■
DC	01	37	DC	VGA 1366x768	Change video out	■	■	■	■
DC	01	38	DC	VGA 1440x900	Change video out	■	■	■	■
DC	01	39	DC	VGA 1600x900	Change video out	■	■	■	■

DC	01	3A	DC	VGA 1600x1200	Change video out	■	■	■	■
DC	01	3B	DC	VGA 1680x1050	Change video out	■	■	■	■
DC	01	3C	DC	VGA 1920x1080	Change video out	■	■	■	■
DC	01	3D	DC	VGA 1920x1200	Change video out	■	■	■	■
DC	01	50	DC	HDMI 480i	Change video out	■	■	■	■
DC	01	51	DC	HDMI 480p	Change video out	■	■	■	■
DC	01	52	DC	HDMI 720p	Change video out	■	■	■	■
DC	01	53	DC	HDMI 1080i	Change video out	■	■	■	■
DC	01	54	DC	HDMI 1080p	Change video out	■	■	■	■
DC	01	55	DC	HDMI 640x480	Change video out	■	■	■	■
DC	01	56	DC	HDMI 800x600	Change video out	■	■	■	■
DC	01	57	DC	HDMI 1024x768	Change video out	■	■	■	■
DC	01	58	DC	HDMI 1280x720	Change video out	■	■	■	■
DC	01	59	DC	HDMI 1280x768	Change video out	■	■	■	■
DC	01	5A	DC	HDMI 1280x1024	Change video out	■	■	■	■
DC	01	5B	DC	HDMI 1360x768	Change video out	■	■	■	■
DC	01	5C	DC	HDMI 1366x768	Change video out	■	■	■	■
DC	01	5D	DC	HDMI 1440x900	Change video out	■	■	■	■

DC	01	5E	DC	HDMI 1600x900	Change video out	■	■	■	■
DC	01	5F	DC	HDMI 1600x1200	Change video out	■	■	■	■
DC	01	60	DC	HDMI 1680x1050	Change video out	■	■	■	■
DC	01	61	DC	HDMI 1920x1080	Change video out	■	■	■	■
DC	01	62	DC	HDMI 1920x1200	Change video out	■	■	■	■
DC	01	70	DC	DVI 480i	Change video out	■	■	■	■
DC	01	71	DC	DVI 480p	Change video out	■	■	■	■
DC	01	72	DC	DVI 720p	Change video out	■	■	■	■
DC	01	73	DC	DVI 1080i	Change video out	■	■	■	■
DC	01	74	DC	DVI 1080p	Change video out	■	■	■	■
DC	01	75	DC	DVI 640x480	Change video out	■	■	■	■
DC	01	76	DC	DVI 800x600	Change video out	■	■	■	■
DC	01	77	DC	DVI 1024x768	Change video out	■	■	■	■
DC	01	78	DC	DVI 1280x720	Change video out	■	■	■	■
DC	01	79	DC	DVI 1280x768	Change video out	■	■	■	■
DC	01	7A	DC	DVI 1280x1024	Change video out	■	■	■	■
DC	01	7B	DC	DVI 1360x768	Change video out	■	■	■	■
DC	01	7C	DC	DVI 1366x768	Change video out	■	■	■	■

DC	01	7D	DC	DVI 1440x900	Change video out	■	■	■	■
DC	01	7E	DC	DVI 1600x900	Change video out	■	■	■	■
DC	01	7F	DC	DVI 1600x1200	Change video out	■	■	■	■
DC	01	80	DC	DVI 1680x1050	Change video out	■	■	■	■
DC	01	81	DC	DVI 1920x1080	Change video out	■	■	■	■
DC	01	82	DC	DVI 1920x1200	Change video out	■	■	■	■
DC	02	0~1F	DC	Volume Control	Set volume From 0 to 31	■	■	■	■
EE	XX	XX	EE	Play track 0001 ~ FFFF		■	■	■	■

3.5 Response Code

Respond back 6 bytes each time: #W,#X,20h,#Y,#Z,FFh

#W	#X	#Y	#Z	
Byte No. (Hex Code)	**Byte No. (Hex Code)**	**Function (Hex Code)**	**Function (Hex Code)**	**Description**
30	**33**	**30**	**42**	**pause**
30	**33**	**30**	**39**	**play, start of a file**
30	**42**	**30**	**31**	**time counter (1 Sec.)**
30	**42**	**39**	**39**	**time counter (99 Sec.)**
30	**39**	**30**	**30**	**volume level 0**
30	**39**	**33**	**31**	**volume level 31**
30	**38**	**30**	**31**	**track 1**
30	**38**	**39**	**39**	**track 99**
30	**34**	**30**	**31**	**end of a file of a group**
30	**31**	**30**	**31**	**end of file or end of group**
30	**32**	**32**	**43**	**loop menu file**
30	**32**	**30**	**35**	**initial the player**

4. Operation Mode

The DSP checks playlist and plays files as configured mode after boot-up.

Track number is defined by file order in a time schedule. For example, if the playlist is same as <Figure 1>, the first track is 001.avi, and the second track is 002.jpg.

```
<ANY>
 <DEF>
  001.avi
  002.jpg
  003.mp3
  004.mpg
  005.wmv
```

<Figure 1>

If you use Advanced Playlist, track number is defined by Scene order in a time schedule. For example, if the playlist is same as <Figure 2>, the first track is Scene 001, and the second track is Scene 002.

```
<ANY>
 <DEF>
  :SCENE001
  :SCENE002
  :SCENE003
  :SCENE004
  :SCENE005
```

<Figure 2>

But in the case of Menu mode, if the playlist is same as <Figure 3>, the menu track is 000.avi, the first track is 001.avi, and the second track is 002.jpg. The menu track is always the first file in a time schedule.

```
<ANY>
 <DEF>
  000.avi
  001.avi
  002.jpg
  003.mp3
  004.mpg
  005.wmv
```

<Figure 3>

If you use Advanced Playlist in the Menu mode, and the playlist is same as <Figure 4>, the menu track is Scene 000, the first track is Scene 001, and the second track is Scene 002. The menu track is always the first Scene in a time schedule.

```
<ANY>
 <DEF>
  :SCENE000
  :SCENE001
  :SCENE002
  :SCENE003
  :SCENE004
  :SCENE005
```

<Figure 4>

4.1 Standby Mode

- DSP normally displays black screen. If DSP receives “Play Track” as command code, it plays corresponding track file. After it finishes playing corresponding file, DSP displays black screen.
- For example, if the playlist is same as <Figure 1> or <Figure 2>, DSP plays as follows.

black screen->(get 0x03 code)->003->black screen

4.2 Repeat Mode

- DSP normally plays files from start track to end track as circulation way. If DSP receives “Play Track” as command code, it plays corresponding track file. After it finishes playing corresponding file, DSP starts from next track file.
- For example, if the playlist is same as <Figure 1> or <Figure 2>, DSP plays as follows.

001->002->003->004->005->001->(get 0x03 code)->003 ->004-

4.3 Menu Mode

- DSP normally plays menu file repeatedly. If DSP receives “Play Track” as command code, it plays corresponding track file. After it finishes playing corresponding file, DSP plays menu file repeatedly.
- For example, if the playlist is same as <Figure 3> or <Figure 4>, DSP plays as follows.

000->000->000->(get 0x03 code)->003->000->000->000

4.4 Continue Mode

- DSP plays first track file repeatedly after boot-up. If DSP receives “Play Track” as command code, it plays corresponding track file repeatedly.
- For example, if the playlist is same as <Figure 1> or <Figure 2>, DSP plays as follows.

001->001->001->(get 0x03 code)->003->003->003->003

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4. Speichergröße und Fabrikat der Speicherkarte:
5. Eine Beschreibung des Problems:
6. Den Namen des Händlers oder der Internetadresse,
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